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Educational policies are discussed which are directed at affecting the incentives of a school superintendent or other executive officers of an operating school system, staff members in the administrative office, principals or other executive officers in a school, teachers, pupils, and their parents. A number of proposals for the modification of schools, as they affect the incentives of school personnel, are discussed under seven headings: (1) Publication of performance information to change the direction of community pressure on superintendent or principal; (2) interscholastic academic competition; (3) intramural cooperation and competition; (4) dual competing school systems; (5) a tuition grant or voucher system for attendance at private schools; (6) the open school, with subject-specific choices; and (7) payment-by-results. (Author/JK)

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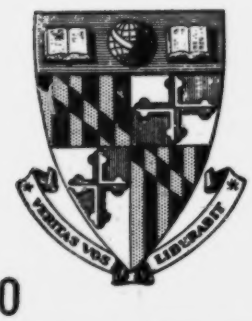

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INCENTIVES IN AMERICAN EDUCATION

JAMES S. COLEMAN

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INCENTIVES IN AMERICAN EDUCATION

James S. Coleman

Paper prepared for Brookings Seminar on Incentives in Public Policy,
February 20, 1969

In order for an educational system to carry out its goals, incentives are necessary at numerous points in the structure. This is merely a special case of the general point that any organization is a system of interdependent incentives, and the functioning of the organization depends upon the adjustment of these incentives. But the implications for policy in education are important: educational policies may be directed at affecting incentives at any point in the structure. In particular, policies may be directed at affecting the incentives of (a) a school superintendent, or other executive officer of an operating school system; (b) staff members in the administrative office; (c) principals, or other executive officer in a school; (d) teachers, who are in direct contact with children; (e) children themselves; and (f) their parents. What is more, various proposals for modification of schools have been directed to each of these positions. Thus it is useful to indicate, for each of these proposals, what is the intended or observed effect on persons in particular positions.

In this paper, I want to discuss a number of proposals that have been made, or changes that have actually taken place in some systems, designed to change the incentives or the structure of rewards confronting people in these various positions. In doing so, I will group the changes or proposed changes under several headings. This grouping is not intended to be a definitive classification, but is for convenience only.

1. Information to change the direction of community pressure on superintendent or principal

A superintendent's rewards in existing school systems are primarily for keeping a "happy ship," that is, for not alienating vocal groups of parents, students, teachers, or staff, and a few other segments of the community, including the mass media.* The level of satisfaction among these different elements depends to some degree upon the amount of learning that occurs in schools, but probably more on numerous other things: on the absence of rapid and unexpected change, whether in curriculum, school organization, or another aspect of the system; on steady increases in teachers' salaries with low increases in tax rates, on his willingness to speak before and meet with nearly any group, on his political skill in negotiating between groups with conflicting goals.

There have been several proposals to modify this structure of rewards so that it depends more on the child's learning. One very simple policy is the publication of nationally standardized achievement test scores in each school in the system, an action that has been carried out in a few cities. The effect of this change is an indirect one: it

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*An example of a superintendent who unnecessarily alienated the mass media, thus contributing to his demise as a superintendent, was Willard Goslin in Pasadena in the early 1950's, a "progressive" educator in a conservative city, who might nevertheless have survived with better public relations. See David Hurlburd, This Happened in Pasadena. Similar examples may be found in many other cities.

provides various pressure groups to whom the superintendent must listen with a criterion that is more directly related to learning than those they ordinarily use. The test scores may be used as a weapon by parents' groups, by teachers, by the superintendent himself, or by others, as a means of increasing resources devoted to education. One may expect that publication of such information will have two effects. The most immediate is to change the direction of pressures to which those who establish policy (school board, superintendent, principal) are subject. Such pressure always exists, and it is directed toward numerous goals. One, as indicated above, is order: the absence of fights in the halls, of student unrest, of disciplinary problems, of trouble caused by schoolchildren, either on or off school grounds. Information concerning this custodial function of the school is ordinarily very visible to parents, and if serious often reaches the mass media. A second pressure upon schools at the secondary level is success in any interscholastic endeavor, ordinarily athletic events, but sometimes other activities, such as band or debate. This pressure has many evident effects: the high pay and status of athletic coaches, the career succession of athletic coaches to superintendencies in small systems, the firing of unsuccessful coaches, the discrepancy in many communities between elaborate athletic facilities and meagre academic facilities.*

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*A classic case in the 1950's was Paris, Illinois, which had a state champion basketball team, and voted funds to erect a large new gymnasium, while the school remained without a library. In a high school that I once studied, in Princeton, Illinois, I found upon revisiting the school that a

As with the custodial function, the success of the school in inter-scholastic events is very visible, and thus can easily generate community pressures at least consonant with the interests of the community in those activities. The academic success of the school, however, is ordinarily much less visible, because except for a few indices, the measures of academic success are within school, that is grades of students relative to others in the same school. The few exceptions include principally college admissions, which come to be known in the community, and numbers of National Merit Scholarship semi-finalists, finalists, and winners. The former of these has the serious defect that it is even more dependent on family background of the student body than is achievement per se; the second has the defect that it concerns only the upper tail of the achievement distribution;* and both have the defect that they are measures of the absolute level of performance, rather than increments in performance over the school years.

The publication of carefully-designed measures of academic performance, which pay attention both to the total distribution of achievement

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large new building including a gymnasium and academic facilities had been built. The funds for the gymnasium had been given by a benefactor in the community; the academic facilities had been paid for by taxes, which were voted when the acceptance of the gift was made contingent upon obtaining funds for those facilities.

*Some schools which concentrate on their high performers do so at the expense of an abnormally high drop-out rate, or a rigid tracking system that reduces academic mobility.

and to the increment in achievement rather than the absolute level, could have, it appears, a very strong impact in changing the direction of pressures upon the school policy-makers, toward academic performance.

A second effect of such publication should be to increase the total resources for education, that is, the willingness of the community to be taxed for education. The evidence for this is less clear, but there does seem to be some indication, at least, that as the success of the schools in meeting their objectives is more precisely measured, community members are willing to expend greater effort toward those objectives.*

Thus one important mechanism to change the incentives of policy-makers in schools, both by changing the direction of educational pressure and increasing the pressure for additional resources, is the publication of performance information. Because it is effective, specific incentives created for principals and superintendents will depend on the specific information published. Thus if that information is to bring about changes in school effectiveness, it must be information on those factors that the school can readily affect - such as increments in achievement, rather than absolute levels. It should be recognized, however, that publication of academic performance data by itself changes only the information basis on which community members may take action; it does not provide any new action alternatives. In a subsequent section, I will indicate changes that can

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*I have said "precisely" measured rather than "validly" measured, because I believe it is the precision of measurement rather than its validity that has this effect.

provide new action alternatives. First, however, I want to discuss briefly another change which modifies the reward structure confronting the community members themselves.

2. Interscholastic academic competition

The example mentioned above of interscholastic athletics indicates the importance of such explicit competition between schools for directing resources into an activity. Yet schools do not structure academic effort in this way: competition is solely between students within the same school, thus providing no basis for collective pressure within the community and within the school toward greater academic exploits. In a study of ten high schools I carried out some years ago, this was one of the principal conclusions, together with the proposition that if academic efforts were governed by a reward structure based on interscholastic competition through academic games rather than solely interpersonal, the efforts toward achievement would receive strong social support within the school, and would consequently be greatly increased. Since that time, there has been initiated first at Nova High School in Fort Lauderdale, Florida, and subsequently in a network of schools extending into several states and Puerto Rico, a league of interscholastic competition based on several academic games, pursued as an extra-curricular activity. There has been initiated an annual "academic olympics" using these games. There has not yet been an assessment of the effects of this activity in changing incentives of school administrators, though several indicators

do exist: appointments have been made to provide game administrators or coaches for teams; travel expenses of teams to the olympics have been paid; and the success of teams has been published in local news media.

Obviously, the most direct change in incentives through such inter-scholastic competition is a change in the incentives confronting the child himself. It now becomes to his interest to encourage efforts of his team-mates, because their success aids that of the school and thus his own. Interpersonal competition remains, but it is accompanied by mutual support as well.

Some of the same processes occur when academic activity is structured by games within the school. The mutual support to win for the school is not present, but the support of team members does exist, and the incentive to perform for the collective success does exist.

Academic games have been introduced by a number of groups in the past few years, partly aiming at this effect, partly at other effects. These games have, as one of their principal effects, that of increasing the general level of motivation and interest of students, and it appears that this is due to the change in incentives it creates for the students - in some cases "collectivizing" the success and thus generating mutual support, and in all cases changing the goal from that of satisfying the teacher to that of winning in a direct encounter with another individual or team.*

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*A review and bibliography of such games in social studies may be found in Simulation Games for the Social Studies Classroom, Foreign Policy Association, New York, October, 1968.

3. Intramural cooperation and competition

A related strategy for changing the reward structure of children and teachers is that of creating various cooperative and competitive structures in the school. This has been extensively carried out in the U.S.S.R., in several forms. At the lowest level, the row in the class constitutes a unit, which competes against other rows. Various different criteria of success are used, to insure that mutual aid is provided by row members - for example, the score of the lowest-scoring member is the criterion, or the average scores of all row members.

The class is also a unit, in competition against other classes. Sometimes this competition is competition over their own performance, sometimes it is competition over the performance of another group for which they are the aids. For example, two eighth grade classes will be in competition over the performance of two second grade classes which are under their respective supervision.

This widespread use of intergroup competition and collective rewards in the U.S.S.R. is explicitly designed to create a system of incentives for students to support, aid, and encourage the efforts of those around them. Observors (Urie Bronfenbrenner in most detail) have reported that it is a very effective system of incentives.

A second major set of proposals to change the system is very different from any of those described above: to cut off completely the flow of resources from the government to the superintendent, and instead to redirect those resources back into the hands of the final consumers, the

individual families whose children attend school. These proposals take many forms, and I will discuss each in turn.

4. Dual competing systems

It was proposed to the Washington, D.C., school board several years ago that a second school system be established in the District of Columbia. Each child would be in two school districts, one school operated by one central school system, and one operated by a second central school system. The child and his family would choose which of the two schools to attend. Each school would be under a constraint to insure that its racial composition was near to that in the school district, a necessary constraint to prevent movement toward increased segregation.

For the individual child and his family the situation would be similar to that he faces in other areas of consumer choice, except that he is limited to two choices. For the superintendent, his operating budget would depend upon income his system receives on a per-pupil basis. In each of his school districts, the success of the principal and staff in attracting students would determine the success of the system. This provides him with an automatic indicator of the success of each principal and staff in providing those things desired by children and parents. Insofar as they make their choices on criteria closely related to learning, then the ability of the school to attract students is an adequate measure of its quality. Further, it is a measure to which he must attend by changing something about the school, in order to bring students into his system.

It is unclear just how such a dual system would operate in practice. It introduces a competitive market for the child and his family, but introduces it only by increasing his alternatives from one to two. It invites collusion on the part of the two superintendents to agree to divide the market between them in such a way as to minimize uncertainty (probably by agreeing to offer only token competition in particular districts). The market is a duopoly, and the behavior which occurs on the part of firms in a duopoly is to be expected - with the important difference that certain activities can be protected against, since the competing systems must not only attract customers, but also satisfy certain criteria that may be set by government.

Some aspects of such a system are currently in force at the high school and junior high level in those cities which allow free choice in school assignment at those levels. Here, the pupil has a choice among all schools in the city, although schools are not located to make two schools easily accessible to a child. It is, to be sure, fundamentally different at the superintendent's level, for although he is concerned about under- and over-utilization of the various schools in the system, the size of his budget does not depend on the child's and parent's choice. It is, in fact, only at the principal's level that such competition exists. The experience of cities that have such free choice plans indicates the importance of another element of a free market, if such a system is to create the appropriate incentives for the principal: there is almost always a shortage of classroom space. At every school, there is nearly

full utilization of plant capacity. A successful principal cannot easily expand his plant capacity, partly because of physical plant constraints, but more because of administrative constraints. (For example, without administrative constraints, he could quickly add portable classrooms.) Consequently, the open choice merely leads to a greater burden (including sometimes double shifts) if his school is an attractive one.

It is useful to point out just the ways in which this proposed dual system does change the superintendent's motivation, and the ways it does not. He is still in the public sector, hence his personal gains from a successful system are not directly financial, but are limited to status and power. As part of the public sector, he would still be constrained, in much the same way that superintendents currently are, in his budget allocations. Thus although his incentives to change a low-performing school would appear to be vastly increased over those in present systems, the range of actions he may take for effecting such a change is not increased. This may or may not be important, for it may be the case that the present actions at his disposal are sufficient if the incentive existed.

An important question concerning such a proposal is the superintendent's or principal's incentive to provide information (i.e., in effect to advertise) about the performance of schools in his system. Only if such an incentive (or incentive on the part of other parties to expose such performance) exists will the child and parents have information that will make his choice of school a wise one. It is not clear, in the proposal as outlined, whether such an incentive to advertise would exist or not.

5. A tuition grant or voucher system for attendance at private schools

A proposal with some similarity to the proposal for competing public systems places somewhat more authority in the hands of the ultimate consumer, the parents and child. Instead of designating two public systems, with budgets dependent upon numbers of students, this proposal allows a parent to buy his education on the open market, using tuition grants or vouchers. Milton Friedman and Christopher Jencks have advocated this substitute for the present system, as have others. A group of economists in Britain has recently discussed the merits of such a proposal.* The proposals themselves differ in details that may be important. Is the public school system to remain as a competitor to the private schools, or is it to be dismantled? Are the private schools to be restricted to nonprofit enterprises, or are profit-making ones allowed? What sort of constraints are to be placed on these schools to insure that the public interest, and not merely that of the specific parents, is being served? (For example, what mechanisms are there to prevent vouchers from being used for training in safecracking or in revolution?) Is there to be any restriction on use of the vouchers at religious schools? Must a potential entrepreneur have a franchise in order to operate a school, and if so, what constraints or limitations will there be on franchises? Is there to be any constraint on a school against excluding persons on the basis of race or religion, or any requirement to maintain a racial

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*See Education: A Framework for Choice (London: Institute of Economic Affairs, 1967, and E.G. West, Education and the State (London: Institute of Economic Affairs, 1965).

balance? (If not, schools will obviously be used for ethnic and racial segregation.)

In this proposal, the incentives for the school system superintendent (if the public system survives) and for the executive officer of the private-sector competitors depend greatly upon the specific details. In general, the system is similar to the competitive dual system described earlier. Assuming perfect freedom of entry into the market, however, it differs in one important respect: it would not generate oligopolistic practices such as splitting up the market. There would be great incentive, as under the dual competitive system, to introduce greater efficiency, for one's competitive survival would depend on it. There would be an incentive, on the part of the highly-performing systems, to disseminate performance measures, and on the part of low-performing systems to advertise on other grounds.

But there is already some indication of how such systems would operate. The private and parochial schools now in existence are presumably little different from schools that would arise under the proposed system, except possibly in the current schools' actions designed to attract sufficient funds from outside donors to supplement tuition. The headmasters at these schools appear to have far fewer incentives merely to maintain discipline, far more incentives to increase achievement of students. In the United States, a large number of private schools have as their principal aim, in fact, the rescue of children who have been performing poorly in public school. Whether they are more effective in

bringing about achievement or not is unknown; but it is clear that there is a strong incentive on the part of headmasters of these schools to raise each child's achievement to an acceptable level for entrance to some college.* There appears, on the basis of casual observation, to be more attention than in public schools directed to individual children who are not doing well - precisely the behavior that one would expect if the parent has the option of withdrawing the child and financial support from the school. Note, however, that this is an incentive on the part of the school's administrator, not on the part of the teacher, and there is no certainty that the incentive be transmitted down to the classroom teacher.

There are numerous elements that will greatly affect the degree to which a voucher system would create incentives on the part of the administrators to increase the learning of their students. If the tuition grants are only barely sufficient to cover operational costs, for example, there is little incentive to enter the market, and the supply of school places will be low. Thus administrators will not be motivated to improve their programs - just as college administrators are not greatly motivated to improve their teaching programs, since their tuition does not cover costs. Their attention is directed to other

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*There appears some indirect evidence that this effort is very successful. Several studies over a period of years have shown that when CEEB socres and background characteristics are controlled, public school students do better in college than do private school students. An explanation of this would be that private school students' scores are artificially high, due to more intensive training in school.

sources of revenue, such as gifts, grants, and contracts, which provide surplus revenue, and give the University added resources to use.

There is a special problem associated with education which makes the prospect less bright that tuition grants or vouchers would create the appropriate competitive system and the appropriate incentive. This is the fact that education is very labor intensive, and shows no signs of becoming less so.* This fact means that the price of education, relative to the general price level, is continually increasing. Thus the value of the vouchers, set by legislative action, will ordinarily lag behind the price of education, reducing the incentive for new entries into the market, and thus keeping the supply of educational places low. This does not mean that such a voucher system would fail to create appropriate incentives for administrators, however, for two reasons: first, with foreknowledge of such problems, protective mechanisms could be created. For example, parents could supplement the voucher with additional funds, thus providing a device to allow the prices to be raised so as to maintain a flow of new private schools into the market; and to insure that the educational services maintain a near independence of income, the voucher legislation could have an automatic escalation clause when the total of voluntary supplements rose to some percentage, such as 10%, of the total

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*There are, to be sure, examples of the use of new technology such as computer consoles in the classroom, and instructional television. But the price of teacher's labor must become much higher before computer consoles become economical, and there is no indication that instructional television reduces labor costs of classroom teaching.

voucher values. Such a mechanism would be designed to perform some of the functions of prices in a private market. It could be made to do so even more adequately through some careful calculation. Suppose, for example, that the collectivity (let us say the nation) determined by legislative decision that education should be independent of income level up to that level of income covering 3/4 of the children in the country. Then it is necessary to estimate what would be spent privately for a child's education at that income level. It is necessary to estimate also the expenditures on education above that level of expenditure for families above that income level, and to aggregate these over all such families. If these "excess" expenditures then total to x% of the total expenditures on education, what is necessary is to maintain the vouchers at such a level that the private expenditure always remains at x% of the total. Such a device would automatically adjust the minimum expenditures on education so that it came to remain at that level which would be purchased on the private market at the level of income representing the 75th percentile of children in the collectivity.

With or without such mechanisms to simulate the price mechanism of a private market, and even if the supply of educational places was low, administrators would be under more incentive than at present to provide an attractive program, since a child would have more opportunity than at present to choose his school.

Altogether, it is clear that the mere provision of a tuition grant

or voucher scheme for education has the potential for changing the school administrator's incentives, and thus his behavior, but does not automatically do so. Its introduction must be carefully carried out in order to insure that the desired market competition does in fact arise. One of the most important of these additional elements, as indicated in earlier sections, is the information provided to those who have the opportunity to make the choice. Thus the change discussed in section 1 is directly complementary to the change that puts consumer choice directly into parents' and childrens' hands.

6. The open school, with subject-specific choices

Similar to the voucher or tuition grant device is a proposal that the individual parent or child make choices for specific subjects.* Under this scheme, all children would continue to attend their neighborhood homebase school, operated by the public school system of their school taxation district. They could, however, choose to take any courses they desire outside this school, under an entrepreneur who would be paid from tax receipts. The entrepreneur would have to satisfy two sets of consumers, as is appropriate since the child's education has spillover effects on the community: the child and his family, and the community as defined by the taxation district (which may be local, state, or

*See James S. Coleman, "Toward Open Schools," The Public Interest, No. 9, Fall, 1967.

national). The child and his parent would use whatever criteria are available to them in their choice, including the ongoing satisfactions or dissatisfactions experienced daily, and at the end of each semester could make a new choice if they wish. The relevant governments involved would impose either criteria governing procedures, or criteria governing performance increments.

A modified form of this proposal that is made possible by the incremental funding of public education by state and national governments in the U.S. is for the federal (or state) increment to go directly to the child's family in the form of education stamps or vouchers. He can then use this voucher in or outside of his public school, depending upon the attractiveness of the alternative offerings.

The merits of such a scheme compared to a voucher scheme for the school as a whole lie at several points. One is the finer discrimination that can be used in choices of specific subjects. A school consists of many facets, and it is first of all difficult to assess specific subject offerings, and then not possible to make differentiated choices. The customer must accept some undesired things along with those he likes. Particularly in the early grades, where learning of reading and facility with numbers is so important, the quality of these offerings may be obscured by other aspects of the school. Perhaps a more important merit of this scheme as compared with a school-voucher scheme is that it should generate a much more numerous and diverse array

of offerings. To begin a school is a large venture, requiring capital expenditure, and a host of allied services (such as health, physical education, eating facilities) which must meet certain standards. To begin a reading center requires only renting a storefront or other building, and beginning with a nucleus of teaching staff and materials. Thus entry into the market is very easy, and one can expect many more entrepreneurs.

Some activities that tend in this direction have been initiated by a few school districts. In at least one district, a coalition between the black community and an educational firm have taken over a portion of the program of a school on an experimental basis. Also under discussion recently in California has been a plan with options to a child's family of the following nature: if the child's school has an average achievement level on standardized tests (presumably in reading and mathematics) below the national norm, then the child's family could: (1) transfer to a school above the norm; (2) receive his tuition as a grant to be used in a private school; or (3) receive a partial tuition grant for partial instruction outside his school.

One group to whom a scheme of the general sort I have described provides an incentive is local community leaders, such as those in a black community, to establish their own educational enterprise in competition with the public school, and with public funds. It provides as an incidental benefit a mode of decentralization that returns a large portion of control of the child's education to the child and the parent,

and requires the local community group or the educational entrepreneur or the central public school system to compete for his custom. In effect, it allows the possibility of decentralization of specific functions, but does not dictate it. The option of which authority the parent places his child under remains with the parent.

7. Pay-by-results

One direct incentive scheme that has been proposed is payment of educational entrepreneurs on the basis of results they produce. This is not in fact a wholly new scheme, for something like it was used in England from 1870 through the 1890's.* That period in England was one of uneasy establishment of a state school system. One step in that establishment was state subsidy to newly-established elementary schools, on the basis of the number of students they got successfully through certain state-administered examinations. This method of state support was not regarded as successful, and in fact was generally discredited. Nevertheless, these schools in many localities quickly surpassed in quality the pre-existing "voluntary schools."

It is instructive to note a major reason for the discreditation of this system: because payment was based on absolute levels of performance, rather than increments in performance, and because family background was then as now more important than school for performance, the subsidy

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*See E.J.R. Eaglesham, The Foundations of 20th Century Education in England (London: Routledge and Kegan Paul, 1967), Chapter 1.

payments favored schools with students from good backgrounds. The situation differed from that proposed in the past few years in other ways as well. For example, there were not (at least at elementary levels) multiple competitors for the child's attendance; and the whole system was directed toward maintenance of a double standard for the working classes and middle classes.

There have been recent proposals for payment by results on the part of some educational firms, and a contract of this form is apparently in the process of being let for school drop-outs in a locality in Georgia. The payment is in the neighborhood of $300 for a year's increment in reading and mathematics. At least one other example of such contracting exists: Westinghouse Learning Corporation has begun an offer to increase reading levels one year or more within a fixed number of hours of instruction for a fixed fee, with money refunded if this goal is not met.

A combination of payment by results and the subject-specific open market is possible, and has been proposed in the Public Interest article referred to earlier. In this proposal, the child and his family would make the subject-specific choice, but the payment to the entrepreneur outside the school would depend upon the increment in achievement by the child. Thus a program that provided merely a pleasurable alternative to school but little increment in performance could not survive financially.

8. Incentives to teachers

As is true for the principal and superintendent, but perhaps to an

even greater extent, a teacher's principal rewards are for maintaining a well-disciplined and generally agreeable class. This is particularly true in lower-class neighborhoods, where order in the classroom is most problematic, and where parents have few criteria with which to evaluate the amount of learning taking place. Some of the changes described above would have a direct impact on the teachers' structure of rewards, particularly those changes involving interscholastic and intramural competition through academic games. These would greatly increase the incentive of the teacher to bring about performance. The few areas of interscholastic academic competition, such as the National Merit Scholarships and science fairs already do this, although the teachers' efforts are concentrated on the few high performers.*

Most of the other plans I have described, such as the voucher plans, do not directly increase the teachers' incentives to engender higher performance in students. The subject-specific vouchers could do so, because the child and his family make their choice for each subject separately, and a teacher must attract students to remain as a teacher. When the consumer choice is made for the school as a whole, however, the teachers' incentives are not greatly changed.

There have been some proposals to change teachers' incentives by

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*When I was a ninth grade student in Ohio, there were statewide achievement tests, with the top ten winners in the state awarded prizes. In my school, the principal came an hour early to school to coach three of us in algebra, and the algebra teacher coached us after school. Similar coaching occurred for contenders in other subjects; and the school took great pride in its "state winners" when the prizes were announced.

some kind of merit pay. These proposals ordinarily make the evaluation of "merit" contingent upon the principal's rating. Two issues are important in evaluating these proposals: first, the principal's criteria of evaluation, which depend in turn on the reward structure he faces; and the information available to the principal about the teachers' performance on these criteria. The latter problem appears manageable, given the records available to the principal; but so long as the principal's rewards are mainly for maintaining order, these are the criteria he will use in evaluating teachers. If the incentives of principals were changed through a mechanism like one of those discussed earlier, then his criteria would change.

9. A final note on two sources of incentives

One point should be kept in mind, however, with regard to the establishment of incentive systems. There appear to be two ways in which new incentives can be introduced: from a superior in an authority structure (e.g., the principal establishing incentive pay for teachers, or the superintendent establishing incentive pay for principals); or through a change in the structure of competition, such that rewards are not based on a superior's evaluation, but on success in a competitive structure (e.g., changing principals' or teachers' incentives by giving the child and his parent free choice). The former type of incentive system, which is what is ordinarily meant by an "incentive system" in an organization, appears to engender more dissatisfaction, and more collusion

to reduce output or destroy the incentive system, than does the latter. Thus teachers' unions will reject incentive systems in which the reward comes from principal or superintendent, but find it more difficult to reject a change in the market structure which gives the child and parent a choice, and thus indirectly changes the teacher's rewards "from below" rather than "from above." This principle appears to hold quite widely with incentive systems: differential rewards that arise from differential success in a market are viewed as more legitimate than differential rewards that are distributed from a higher position in an organization.*

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*The same principle applies to students, making their success or failure in an academic game more legitimate to them than the grades they receive based on evaluation by a teacher.